UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/258,013	02/25/1999	ALOK KUMAR SRIVASTAVA	50277-236	3268

29989 7590 '09/23/2002

HICKMAN PALERMO TRUONG & BECKER, LLP
1600 WILLOW STREET
SAN JOSE, CA 95125

EXAMINER
PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 09/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/258,013	SRIVASTAVA ET AL.	
	Examiner	Art Unit	
	B. PRIETO	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 September 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 11-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9, and 11-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This communication is in response to amendment filed 09/03/02; claims 1-9, and 11-19 remain pending.

2. Claims 1-9 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herriot U.S. Patent No. 5,862,331 in view of Iba et. al. (Iba) U.S. Patent No. 5,835,766 in further view of Ecklund U.S. Patent No. 4,853,843.

Regarding claim 1, Herriot features substantially as claimed, teaching;

registering (register means col 3/lines 34-39, 46-56, col 5/lines 32-39) in a name (host 1-3) service (programs running of a server host having network related information, col 1/lines 36-48) participant data that identifies (identification information col 4/line 53-64, col 2/lines 52-61, e.g. name and/or address) a plurality of participants that are taking and/or forming part i.e. participating in said distributed operation (host the provide instances of a service, that each provide access to resources);

a (particular) node (requesting application program, col 3/lines 46-56, e.g. 204, nodes 101-103 acting as clients) that requires information about participants (required information col 4/lines 34-39, col 65-col 5, line 1, information needed to communicated, col 1/lines 12-19, participant entities, i.e. transactions) in said distributed operation, to retrieve said participant data (col 4/lines 34-col 5/line 6, data, col 3/lines 36-39) from said name service (requested/returned information, col 5/lines 43-51); wherein client node(s) is different than a node on which the name service resides (Herriot: Fig. 2, column 5/lines 43-51, and column 1/lines 36-56);

however Herriot does not explicitly teach wherein the step of causing a node to retrieve said participant data includes causing said (particular) node to retrieve said participant data in response to said node particularly performing deadlock detection means, nor defining a distributed operation as a unit of work;

Iba teaches means for causing a application node to retrieve information from a database participating in a distributed operation which includes causing said node to retrieve said participant data in response to said node performing an exclusive control means (col 4/lines 12-

22, requesting application performing required lock acquisition means, database server participating in distributed transaction operations); wherein client node(s) is different than a node on which the name service resides (Iba: col 5/lines 43-50);

enabling a application node to retrieve data from a database application of a plurality of database servers, said database applications providing information upon request, i.e. a database server which are participating in a distribution transaction (system means, col 1/lines 12-18, 58-42, abstract);

where said distributed operation is an atomic transaction involving said plurality of participants (col 2/lines 34-34);

wherein said name services registers information received from client (col 4/lines 1-32, col 7/lines 66-col 8/line 5) and provides said information to clients (e.g. 17b) that require the information for determining a lock to retrieve said registered information (col 4/lines 23-62);

however the prior art does not explicitly teach where a distributed operation is a unit of work;

Ecklund teaches wherein in a distributed transaction processing environment, where transaction is a unit of work (col 1/lines 10-24).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify existing system with means for causing any requesting program to retrieve data from a database server by particularly enabling deadlock generation and detection means so as to enable (stretch over) access to a plurality of resources operable to both distributed local transaction and distributed global transactions, as taught by Iba. Motivation to combine Ecklund's teachings would be to base distributed transaction processing on a functional standard model, commonly widely used.

Regarding claim 2, causing a particular node to retrieve participant information data in response to said particular node performing deadlock detection (Iba; col 4/lines 12-22, col 1/lines 12-18, 58-42, abstract, col 2/lines 34-34, col 4/lines 1-32, col 7/lines 66-col 8/line 5 and provides said information to clients (e.g. 17b) that require the information for determining a lock to retrieve said registered information col 4/lines 23-62).

Regarding claim 3, the combined teachings as discussed above further teach wherein said distributed operation is a distributed transaction (Herriot, col 1/lines 49-56, and Iba, abstract, col 7/lines 32-40);

registering includes registering in a name service participant data that identifies which database servers of a plurality of database servers are participating in said distributed transaction (Herriot, col 1/lines 49-56 server in a distributed computing environment having register means col 3/lines 34-39, 46-56, col 5/lines 32-39, registering in a name service, databases servers participating in said distributed transaction operation, Iba, col 7/lines 32-40, col 9/lines 9-14, abstract);

Regarding claim 4, the combined teachings as discussed above further teach further including the step of causing updates to said participant data to identify a new participant in said distributed operation (Herriot, col 2/lines 50-61, updating means col 6/lines 46-50 comprising identification of new/added participant).

Regarding claim 5, the combined teachings as discussed above further teach wherein said distributed operation is a distributed database transaction being executed by a set of transaction processes (Iba, col 1/lines 20-24) coordinated by transaction management means (a coordinator process) (Iba, col 1/lines 58-42, distributed transaction processing means, col 7/lines 32-460; the method further includes the step of said coordinator process causing a new process associated with name service participant data (Herriot, updates identify new host of services (application/process) added, col 6/lines 46-50, which identifies which database server of said plurality of database server participate in said distributed database transaction, wherein updates means causing to said participant response to said new process participating in said distributed database transaction; (Herriot, registering new (added) services/host, col 2/lines 56-61, Iba, distributed database transactions, col 7/lines 32-40, col 9/lines 9-14).

Regarding claim 6, comprises the combined limitation discussed on claims 1-3 and 5, same rationale is applicable;

Regarding claim 7 the combined teachings and limitations as discussed in claims 1-5 above further teach the step of assigning a transaction identifier to said distributed database transaction (Herriot, identify means, col 2/lines, 52-61, name service comprising identifying means, col 4/lines 34-56, of participants in distributed operations being distributed transactions, name service having said participant data comprising identifying data of database servers participating in said distributed transactions, as discussed above); and the step of causing a (particular) node (requesting application program, col 3/lines 46-56, e.g. 204, nodes 101-103 acting as clients) that requires information about participants (required information col 4/lines 34-39, col 65-col 5, line 1, information needed to communicated, col 1/lines 12-19) in said distributed operation to retrieve said participant data (col 4/lines 34-col 5/line 6, data, col 3/lines 36-39) from said name service (requested/returned information, col 5/lines 43-51), requested information from said name service distributed, disseminated, i.e. published data associated with said transaction identifier (identifier of a database participating in a distributed transaction (transaction identifier), discussed above.

Regarding claims 8-9, the combined teachings as discussed above further teach wherein name service process receiving a request from a first requesting process to supply said participant data from one structure residing on multiple or instances of a server, wherein said name service process and said first requesting process reside on said node (Herriot, col 3/lines 46-64 client requesting programs running on name service host) of from one data structure, col 6/lines 46-54).

Regarding claims 11-19, these claim comprise the computer-readable medium carrying one or more sequences of one or more instructions, wherein the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of the method disclosed on claims 1-9, same rationale is applicable.

Related U.S. Patents:

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure; pertinence is presented in accordance with to MPEP§ 707.05. Copies of documents cited will be provided as set forth in MPEP§ 707.05(a):

U.S. 5,790,788: Badovinatz et. al. teaches identifying the participants of a distributed transaction operation in a distributed computing environment, teaching storing data that identifies a plurality of processor (e.g. computers) that are participating in a distributed transaction operation (col 3/line 27-30, 40-45, distributed transaction operation access resources of distributed system (col 4/lines 1-11) in a name server; distributed transaction operation is a unit of processing transaction operations involving said plurality of processor (col 2/lines 51-59); said name server stores information received for the requesting nodes (i.e. clients) (col 4/lines 50-62) and provides said information to the client that request the information (col 3/lines 34-36, col 4/line 50-62), wherein said clients include nodes different than the name server node (col 3/line 12/lines 30); a particular node may retrieve required information about participants in said distributed operation from said name server (col 4/lines 50-62).

U.S. 5,459,871: Van Den Berg teaches storing in a processing manager data that identifies a plurality of processors that are participating in a distributed transaction operation (col 2/lines 43-45, col 2/lines 62-66, wherein said distributed transaction operation is a unit of process involving said plurality of participating processor (col 2/line 51-59.

RESPONSE TO ARGUMENTS

3. Applicant argues (A) prior art of record does not teach claim limitation as amended, specifically, client node(s) is different than a node on which the name service resides;

In response to applicant's argument A, Herriot teaches Fig. 2 is a block diagram of a portion of a computer network having a name service, where the name service 202 resides on host A 201, which communicates with the host B 203 in which the client program 204 is running (column 5/lines 43-51). Discussing wherein prior art, typically in a "distributed client-server" computing environment, a "server" may be a program running on a particular host (nodes) which provides network-related services, to other computer (nodes) called "clients" (column 1/lines 36-56).

Iba teaches where the global deadlock detector is provided with a wait-for graph (name service), which stores wait-for relation between transactions and is used for detecting a deadlock, including an address of a node connected to a self node on a shared memory, each

node corresponding to each transaction, and a transaction identifier of the self node (col 5/lines 43-50).

Therefore the prior art of record teaches, wherein in a distributed system, clients include nodes different than a node on which the name service resides, i.e. distributed system.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (703) 305-0750. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Mark H. Rinehart can be reached on (703) 305-4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6606. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Any response to this action should be mailed to:
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 746-7239, (for Official communications intended for entry)

Or:

(703) 746-7240 (for Non-Official or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Fourth Floor (Receptionist), further ensuring that a receipt is provided stamped "TC 2100".

B. Prieto
Patent Examiner
September 19, 2002

ROBERT B. HARRELL
PRIMARY EXAMINER